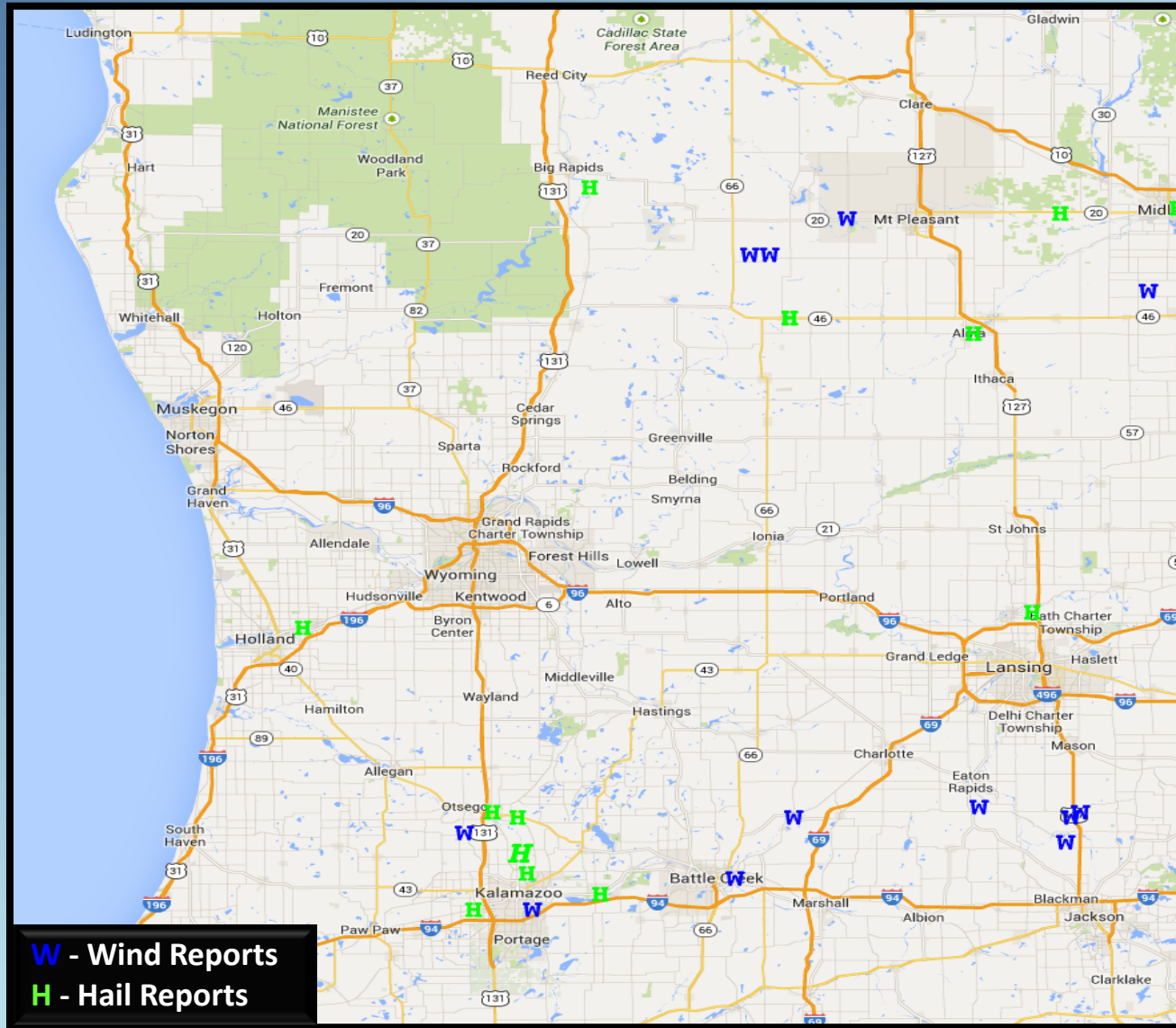


Severe Weather Event – July 27, 2014



NWS Grand Rapids
www.weather.gov/gr



National Weather Service
Grand Rapids

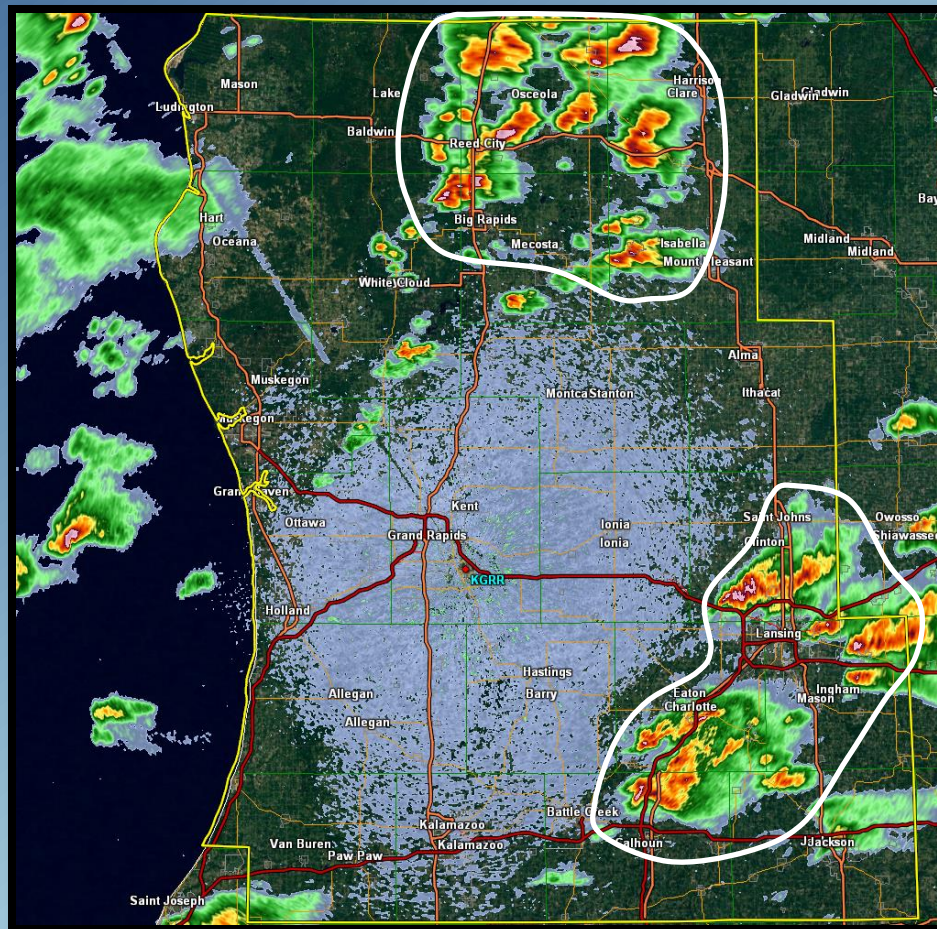


@NWSGrandRapids

Severe Weather Event – July 27, 2014

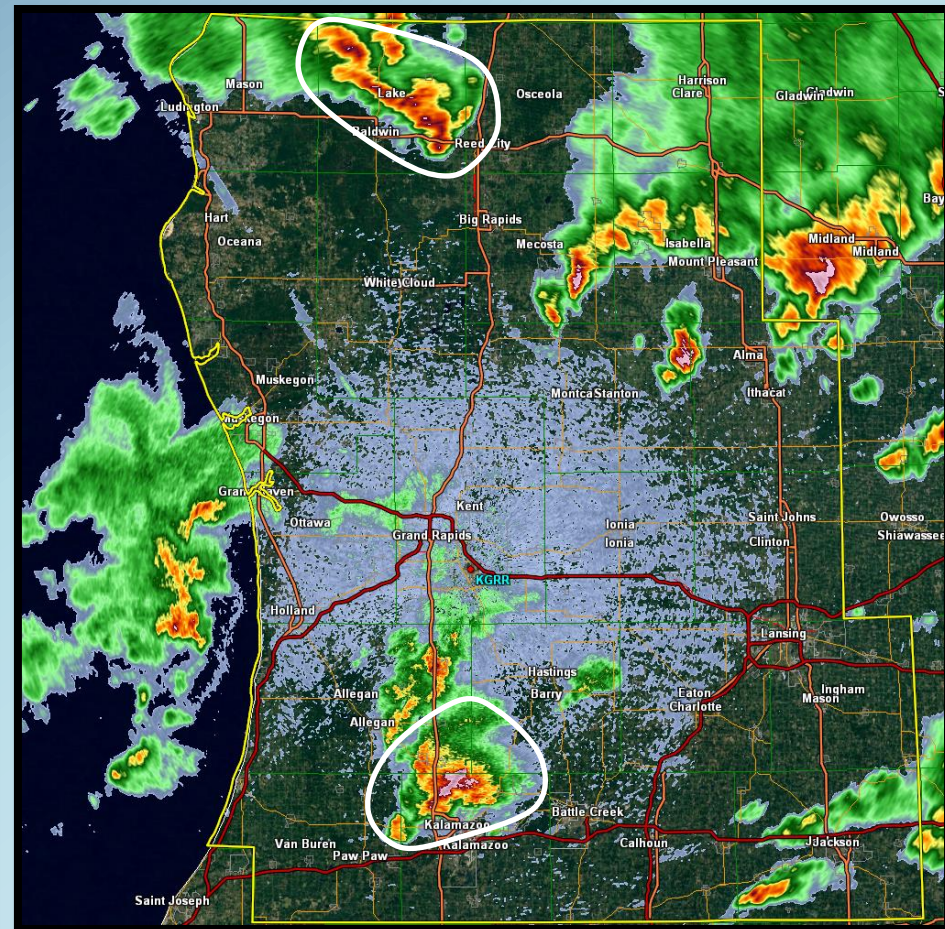
- Storm system rotated through Great Lakes Region
- Cold front accompanied system, cooler air dove south
- Several outflow boundaries created by storms
- Multiple areas of convection resulted
- Several hail reports, most significant in Cooper Twp, MI

Radar Images



2:15 p.m.

First cluster north of Grand Rapids produced the day's first reports. Additional development in this area as well as near Lansing and Battle Creek produced reports.

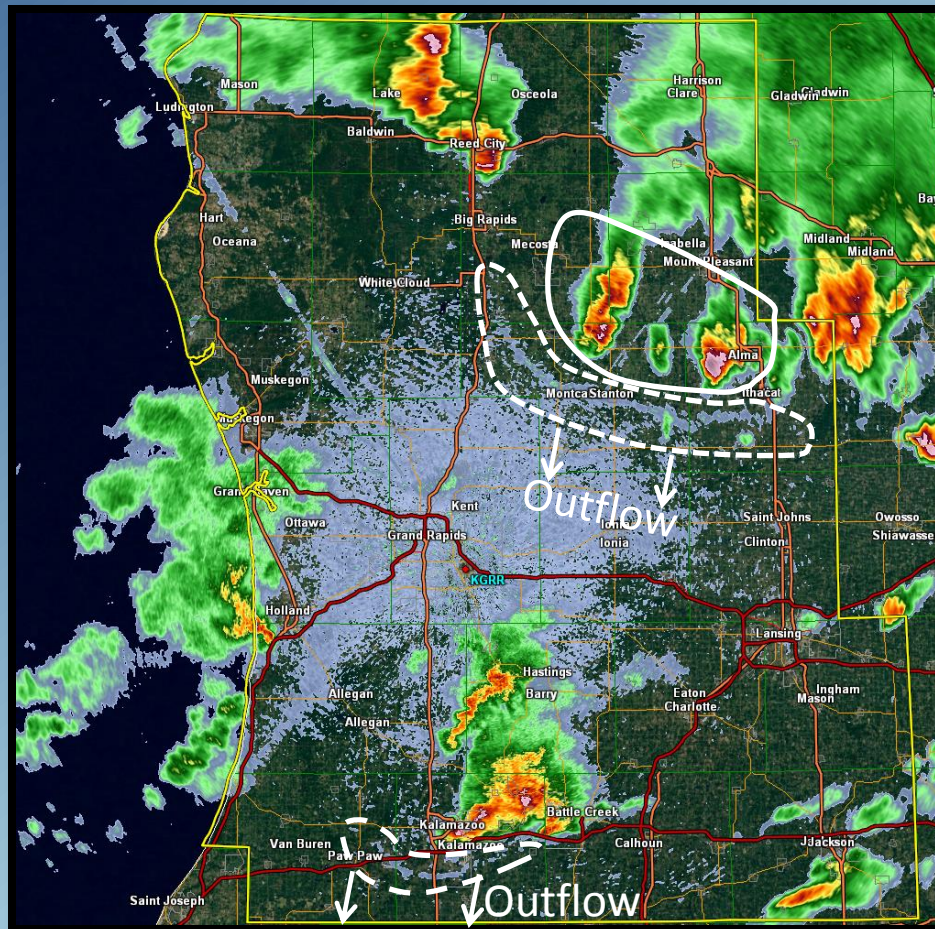


4:40 p.m.

Some areas were repeatedly hit with additional development (Reed City area). Biggest producer was the storm near Kalamazoo (in Cooper Twp) with 2 inch hail.

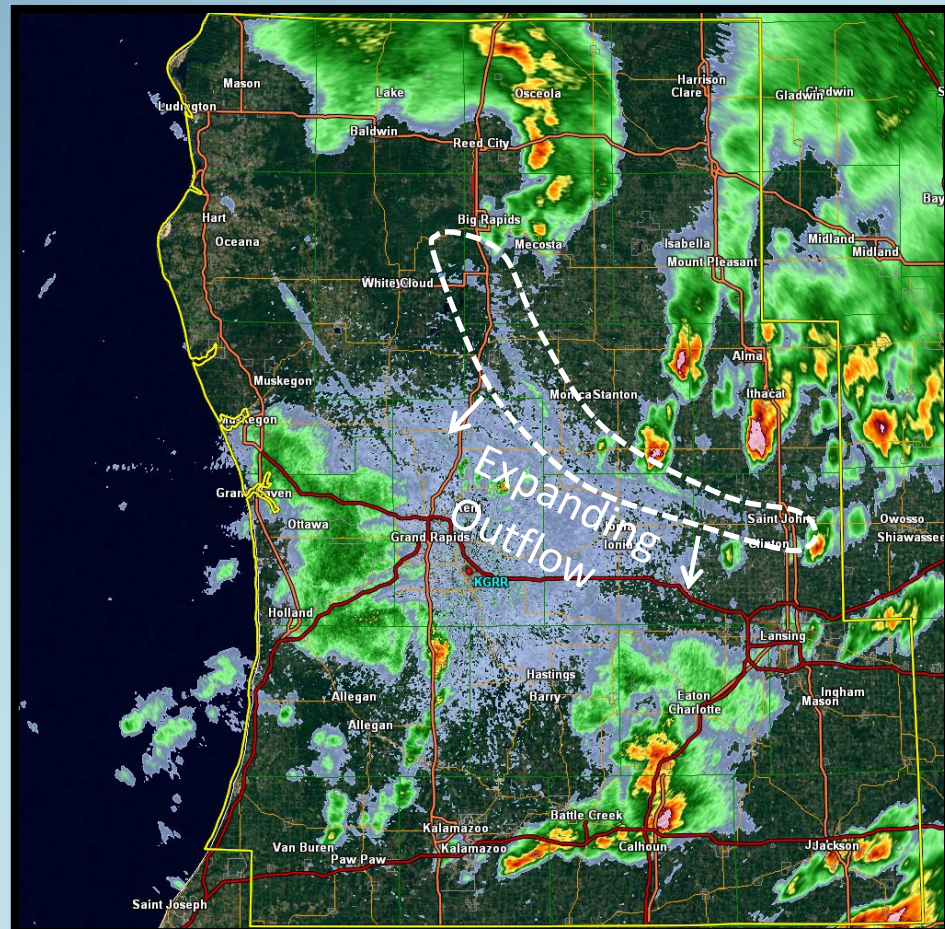
Radar Images

Outflow Boundaries



4:58 p.m.

Several outflow boundaries formed, helping to create numerous areas of development. As a result, storms near Alma produced hail.



5:32 p.m.

Continuing outflow created additional clusters as it traveled south. Storms continued east and moved out of the forecast area by 7:30 p.m.

Severe Weather Reports

PRELIMINARY LOCAL STORM REPORT...SUMMARY
NATIONAL WEATHER SERVICE GRAND RAPIDS MI
1111 PM EDT SUN JUL 27 2014

...TIME... ...EVENT... ...CITY LOCATION... ...LAT.LON...
...DATE... ...MAG.... ..COUNTY LOCATION..ST.. ...SOURCE....
..REMARKS..

0634 PM HAIL 4 NW SAINT JOHNS 43.04N 84.61W
07/27/2014 M0.50 INCH CLINTON MI EMERGENCY MNGR

0629 PM TSTM WND DMG 3 S EATON RAPIDS 42.46N 84.64W
07/27/2014 EATON MI LAW ENFORCEMENT

EATON 911 CENTER REPORTING TREES DOWN IN THE
AREA TO INCLUDE WILCOX RD NEAR BOODY HWY AND
HOUSTON RD

0613 PM TSTM WND DMG LESLIE 42.45N 84.43W
07/27/2014 INGHAM MI EMERGENCY MNGR

TREES AND WIRES REPORTED DOWN IN LESLIE AND
ONONDAGA AREA.

0606 PM HAIL 1 SSE ORLEANS 43.06N 85.13W
07/27/2014 M0.50 INCH IONIA MI TRAINED SPOTTER

0555 PM HAIL 2 SSE KALAMAZOO 42.25N 85.57W
07/27/2014 E0.25 INCH KALAMAZOO MI TRAINED SPOTTER

0549 PM HAIL 1 NNE GRATIAN 43.10N 85.37W
07/27/2014 M0.25 INCH KENT MI PUBLIC

0530 PM HAIL EDMORE 43.41N 85.03W
07/27/2014 M1.25 INCH MONTCALM MI TRAINED SPOTTER

0528 PM HAIL 2 SSW BATTLE CREEK 42.27N 85.25W
07/27/2014 E0.88 INCH CALHOUN MI PUBLIC

ESTIMATED DIME TO NICKEL SIZE HAIL RELAYED
VIA SOCIAL MEDIA

0524 PM TSTM WND DMG BELLEVUE 42.44N 85.02W
07/27/2014 EATON MI EMERGENCY MNGR

FEW TREES REPORTED DOWN BY EM

0518 PM HAIL ALMA 43.38N 84.65W
07/27/2014 M0.50 INCH GRATIOT MI TRAINED SPOTTER

0518 PM HAIL 2 W BROWNLEE PARK 42.32N 85.18W
07/27/2014 M0.25 INCH CALHOUN MI TRAINED SPOTTER

0516 PM HAIL 3 E LE ROY 44.04N 85.39W
07/27/2014 E0.25 INCH OSCEOLA MI BROADCAST MEDIA

PUBLIC REPORT RELAYED BY MEDIA

0515 PM TSTM WND GST 3 SW BROWNLEE PARK 42.30N 85.17W
07/27/2014 E50 MPH CALHOUN MI EMERGENCY MNGR

0507 PM HAIL GALESBURG 42.29N 85.42W
07/27/2014 E1.00 INCH KALAMAZOO MI TRAINED SPOTTER

SPOTTER ESTIMATED QUARTER SIZE HAIL FALLING
AT THE TIME OF REPORT

0505 PM TSTM WND DMG BROWNLEE PARK 42.32N 85.14W
07/27/2014 CALHOUN MI PUBLIC

RECEIVED A CALL FROM THE PUBLIC REGARD A
POWER POLE AND TREE THAT WAS DOWN NEAREST TO
RAYMOND AND WESTBROOK. POWER LINES WERE DOWN
IN THE YARD. TIME EST BY RADAR.

0501 PM HAIL GALESBURG 42.29N 85.42W
07/27/2014 M0.75 INCH KALAMAZOO MI TRAINED SPOTTER

SPOTTER REPORTED DIME SIZE HAIL WITH HIGH
WINDS BUT DID NOT PROVIDE AN ESTIMATED
MAGNITUDE FOR THE WIND SPEED

0500 PM HAIL ALMA 43.38N 84.65W
07/27/2014 M1.00 INCH GRATIOT MI TRAINED SPOTTER

0500 PM TSTM WND DMG 1 NE BLANCHARD 43.53N 85.07W
07/27/2014 ISABELLA MI 911 CALL CENTER

A COUPLE OF TREES DOWN WITH SIZE UNKNOWN.

0458 PM TSTM WND DMG 2 SE KALAMAZOO 42.26N 85.56W
07/27/2014 KALAMAZOO MI TRAINED SPOTTER

TREE BRANCHES DOWN IN THE AREA

Severe Weather Reports

0455 PM 07/27/2014	HAIL M1.00 INCH	PARCHMENT KALAMAZOO	MI	42.33N 85.57W EMERGENCY MNGR
0455 PM 07/27/2014	TSTM WND DMG M1.75 INCH	7 E SYLVESTER MECOSTA	MI	43.53N 85.11W 911 CALL CENTER
FEW TREES DOWN WITH SIZE UNKNOWN.				
0454 PM 07/27/2014	HAIL M0.25 INCH	KALAMAZOO KALAMAZOO	MI	42.27N 85.59W PUBLIC
PEA SIZE HAIL AND 40 MPH WIND GUST REPORTED BY WWTI-TV				
0453 PM 07/27/2014	HAIL M0.75 INCH	3 NE EASTWOOD KALAMAZOO	MI	42.33N 85.50W TRAINED SPOTTER
SPOTTER REPORTED PENNY SIZE HAIL AND ESTIMATED WINDS OF 50 MPH				
0453 PM 07/27/2014	HAIL M0.75 INCH	REED CITY OSCEOLA	MI	43.87N 85.51W EMERGENCY MNGR
0450 PM 07/27/2014	HAIL E0.25 INCH	1 NE BRADLEY ALLEGAN	MI	42.65N 85.63W FIRE DEPT/RESCUE
WAYLAND FIRE DEPT REPORTED PEA SIZE HAIL AND 54 MPH WINDS				
0445 PM 07/27/2014	HAIL M1.50 INCH	OSHTIMO KALAMAZOO	MI	42.26N 85.68W TRAINED SPOTTER
DELAYED REPORT RECEIVED				
0445 PM 07/27/2014	HAIL E0.25 INCH	2 N OSHTIMO KALAMAZOO	MI	42.28N 85.68W TRAINED SPOTTER
PEA SIZE HAIL AND ESTIMATED WIND OF 50 MPH				
0440 PM 07/27/2014	HAIL M2.00 INCH	2 ESE COOPER KALAMAZOO	MI	42.37N 85.58W BROADCAST MEDIA
PUBLIC SENT PICTURES OF 2 INCH HAIL TO LOCAL MEDIA WHICH WAS RELAYED TO NWS COURTESY OF WOOD-TV.				
0440 PM 07/27/2014	HAIL M1.00 INCH	PLAINWELL ALLEGAN	MI	42.45N 85.64W TRAINED SPOTTER
0440 PM 07/27/2014	HAIL E0.25 INCH	WAYLAND ALLEGAN	MI	42.67N 85.64W TRAINED SPOTTER

0439 PM 07/27/2014	TSTM WND GST E51 MPH	1 ENE BRECKENRIDGE GRATIOT	MI	43.41N 84.46W TRAINED SPOTTER
0438 PM 07/27/2014	HAIL M1.75 INCH	3 E PLAINWELL ALLEGAN	MI	42.44N 85.59W PUBLIC
SPOTTER MEASURED GOLFBALL SIZE HAIL NEAR ALLEGAN ST. IN COOPER TOWNSHIP AREA				
0435 PM 07/27/2014	TSTM WND GST E60 MPH	3 N ALAMO KALAMAZOO	MI	42.41N 85.70W TRAINED SPOTTER
TRAINED SPOTTER ESTIMATED 60 MPH GUST NEAR RAVINE AND 6TH ST. DIME SIZE HAIL WAS ALSO FALLING.				
0435 PM 07/27/2014	HAIL M0.88 INCH	3 N ALAMO KALAMAZOO	MI	42.41N 85.70W TRAINED SPOTTER
SPOTTER FROM EARLIER REPORT CALLED BACK IN WITH NICKEL SIZE HAIL HE HAD MEASURED.				
0430 PM 07/27/2014	HAIL M0.88 INCH	2 N ALAMO KALAMAZOO	MI	42.40N 85.71W PUBLIC
0430 PM 07/27/2014	HAIL M1.00 INCH	EDMORE MONTCALM	MI	43.41N 85.03W TRAINED SPOTTER
0427 PM 07/27/2014	HAIL M0.25 INCH	3 N DORR ALLEGAN	MI	42.77N 85.72W AMATEUR RADIO
PUBLIC REPORT RELAYED BY HAM RADIO				
0409 PM 07/27/2014	HAIL E0.88 INCH	ZEELAND OTTAWA	MI	42.81N 86.02W BROADCAST MEDIA
SEVERAL REPORT OF DIME AND NICKEL SIZE HAIL HAVE BEEN COMING IN OUT OF ZEELAND. COURTESY OF WOOD-TV				
0407 PM 07/27/2014	HAIL E0.25 INCH	1 E RIVES JUNCTION JACKSON	MI	42.39N 84.44W EMERGENCY MNGR
PUBLIC REPORT HAIL JUST A LITTLE BIGGER THAT PEA SIZE (EST) TO EM.				
0405 PM 07/27/2014	TSTM WND DMG	RIVES JUNCTION JACKSON	MI	42.39N 84.46W 911 CALL CENTER
NUMEROUS TREES DOWN IN RIVES AND PARMA TOWNSHIPS.				

Severe Weather Reports

0404 PM HAIL 4 SE BIG RAPIDS 43.66N 85.44W
07/27/2014 M1.00 INCH MECOSTA MI BROADCAST MEDIA

REPORT RELAYED BY MEDIA OF QUARTER SIZE HAIL THAT FELL FOR APPROXIMATELY 6 MINUTES NEAR BIG RAPIDS.

0403 PM HAIL 1 W ZEELAND 42.81N 86.03W
07/27/2014 M1.00 INCH OTTAWA MI AMATEUR RADIO

REPORT RELAYED BY HAM RADIO OPERATOR OF QUARTER SIZE HAIL THAT FELL IN ZEELAND AREA

0401 PM HAIL ZEELAND 42.81N 86.01W
07/27/2014 M0.88 INCH OTTAWA MI AMATEUR RADIO

0401 PM HAIL 2 WSW ZEELAND 42.81N 86.06W
07/27/2014 M0.88 INCH OTTAWA MI TRAINED SPOTTER

SPOTTER CALLED IN A REPORT OF NICKEL SIZE HAIL FALLING JUST EAST OF HOLLAND

0358 PM HAIL 3 NE BEECHWOOD 42.83N 86.08W
07/27/2014 M0.75 INCH OTTAWA MI TRAINED SPOTTER

SPOTTER NOTED THAT DIME SIZE HAIL FELL FOR A LITTLE LESS THAN A MINUTE. NO HIGH WINDS ACCOMPANIED THE STORM AT THE TIME OF THE REPORT.

0353 PM HAIL 2 NNE BEECHWOOD 42.83N 86.12W
07/27/2014 M0.25 INCH OTTAWA MI AMATEUR RADIO

0350 PM TSTM WND GST 1 E MOUNT PLEASANT 43.60N 84.77W
07/27/2014 E50 MPH ISABELLA MI TRAINED SPOTTER

ESTIMATED WIND GUST AT CMU CAMPUS RELAYED VIA SOCIAL MEDIA. TIME ESTIMATED BY RADAR.

0350 PM HAIL 3 W ZEELAND 42.82N 86.07W
07/27/2014 E0.25 INCH OTTAWA MI TRAINED SPOTTER

SPOTTER STATED MOSTLY PEA SIZE HAIL AND MAYBE A FEW THAT WERE SLIGHTLY BIGGER (EST).

0345 PM HAIL 4 S PORT SHELTON 42.84N 86.21W
07/27/2014 M0.25 INCH OTTAWA MI AMATEUR RADIO

REPORT RELAYED BY HAM RADIO OPERATOR

0338 PM HAIL 2 SW BATH 42.80N 84.48W
07/27/2014 M0.25 INCH CLINTON MI COCORAHS

REPORT RELAYED VIA SOCIAL MEDIA BY COCORAHS NETWORK VOLUNTEER

0335 PM HAIL 1 W WILLIAMSTON 42.69N 84.30W
07/27/2014 M0.75 INCH INGHAM MI AMATEUR RADIO

0330 PM HAIL 2 WNW FARWELL 43.85N 84.91W
07/27/2014 M0.75 INCH CLARE MI TRAINED SPOTTER

HAIL LASTED ABOUT 8 MINUTES AND WAS ACCOMPANIED BY GUSTY WINDS

0330 PM HAIL 2 E DEWITT 42.84N 84.53W
07/27/2014 E1.00 INCH CLINTON MI 911 CALL CENTER

0327 PM HAIL 1 ENE DEWITT 42.84N 84.56W
07/27/2014 M0.75 INCH CLINTON MI AMATEUR RADIO

HAM RADIO OPERATOR REPORTED DIME SIZE HAIL CURRENTLY FALLING

0323 PM HAIL DEWITT 42.84N 84.58W
07/27/2014 E0.25 INCH CLINTON MI BROADCAST MEDIA

REPORT RELAYED BY MEDIA FROM THE PUBLIC

0320 PM HAIL WILLIAMSTON 42.69N 84.28W
07/27/2014 M0.50 INCH INGHAM MI EMERGENCY MNGR

REPORT RELAYED BY EM OF HAIL THAT FELL AROUND LAKE LANSING AREA. TIME IS ESTIMATED BY RADAR.

0318 PM HAIL PARIS 43.77N 85.50W
07/27/2014 M0.25 INCH MECOSTA MI TRAINED SPOTTER

0318 PM HAIL LAKE GEORGE 43.96N 84.95W
07/27/2014 M0.75 INCH CLARE MI PUBLIC

HAIL HAD FALLEN FOR AN ESTIMATED 10-15 MINUTES. REPORT ALSO NOTED SOME HIGH WIND THAT ACCOMPANIED THE STORM. WIND SPEED ESTIMATED WAS NOT PROVIDED AT THE TIME. REPORT RELAYED VIA SOCIAL MEDIA.

0250 PM HAIL PORTLAND 42.87N 84.90W
07/27/2014 M0.25 INCH IONIA MI PUBLIC

DELAYED REPORT OF PEA SIZE HAIL IN PORTLAND RECEIVED VIA SOCIAL MEDIA

0240 PM HAIL 1 WSW WAVERLY 42.73N 84.64W
07/27/2014 M0.25 INCH EATON MI EMERGENCY MNGR

REPORT ORIGINATED FROM THE PUBLIC AND RELAYED TO NWS BY EM

Severe Weather Photos



Courtesy: Brian Perkins
Cooper Township



Farwell Area



Leslie Area



Courtesy: LA Harrison Au
Battle Creek



DeWitt Area



Eaton Rapids Area